Final
Site-Specific Unexploded Ordnance Safety Plan Attachment
Site Investigation for Ranges at Iron Mountain Road and Ranges at Bains Gap Road

Skeet Range, Parcel 69(Q)
Range 19, Parcel 75(Q)
Range 13, Parcel 71(Q)
Range 12, Parcel 70(Q)
Range 21, Parcel 77(Q)
Range 22, Parcel 78(Q)
Range 27, Parcel 85(Q)

Fort McClellan, Calhoun County, Alabama

Prepared for:

U.S. Army Corps of Engineers, Mobile District
109 St. Joseph Street
Mobile, Alabama 36602

Prepared by:

IT Corporation
312 Directors Drive
Knoxville, Tennessee 37923

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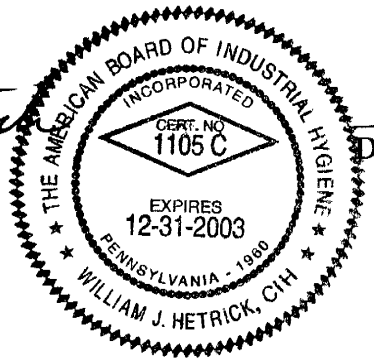
Final
Site-Specific Unexploded Ordnance Safety Plan Attachment Site Investigation at the Skeet Range, Range 19, Range 13, Range 12, Range 21, Range 22 and Range 27

I have read and approve this site-specific unexploded ordnance (UXO) safety plan attachment for the Skeet Range, Parcel 69(Q), Range 19, Parcel 75(Q), Range 13, Parcel 71(Q), Range 12, Parcel 70(Q), Range 21, Parcel 77(Q), Range 22, Parcel 78(Q) and Range 27, Parcel 85(Q) at Fort McClellan, Alabama, with respect to project hazards, regulatory requirements, and IT Corporation UXO procedures.

Robert W. Hickman, Jr.
UXO Technical Manager

23 JUL 01
Date

William J. Hetrick, CIH
Health & Safety Manager



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ATTACHMENT 1

FORT MCCLELLAN UNEXPLODED ORDNANCE SUPPLEMENTARY PROCEDURES

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List of Acronyms

See Attachment 1, List of Abbreviations and Acronyms, of the Site-Specific Field Sampling Plan Attachment contained in this binder.

1.0 Introduction

This document defines anomaly avoidance procedures for activities to be performed by IT Corporation (IT) unexploded ordnance (UXO) personnel in conjunction with the site investigation at the Skeet Range, Parcel 69(Q), Range 19, Parcel 75(Q), Range 13, Parcel 71(Q), Range 12, Parcel 70(Q), Range 21, Parcel 77(Q), Range 22, Parcel 78(Q) and Range 27, Parcel 85(Q), at Fort McClellan (FTMC), Calhoun County, Alabama. This document is not a stand-alone document; it must be used in conjunction with the *Fort McClellan Unexploded Ordnance Supplementary Procedures* (IT, 2001), attached as Attachment 1.

IT UXO personnel will perform visual surveys, assisted by hand-held magnetometers and metal detectors, to support the collection of surface soil, subsurface soil, groundwater, surface water, and sediment samples for chemical analysis. The purpose is to avoid any ordnance and explosives (OE) during hazardous, toxic and radioactive waste (HTRW) sampling activities. Intrusive anomaly investigation is not authorized for this site work.

The Ranges at Iron Mountain Road are comprised of the Skeet Range, Parcel 69(Q), Range 19, Parcel 75(Q), Range 13, Parcel 71(Q), and Range 12, Parcel 70(Q). All four range sites are located east of Iron Mountain Road and south of Summerall Gate Road in the southwest area of the Fort McClellan (FTMC) Main Post. Sunset Hill and Baltzell Hill located to the east, form the main boundary of these ranges. Several small tributary streams meet in this area to form Remount Creek, which flows north to Cane Creek.

The ranges at Bains Gap Road are comprised of three ranges that are adjacent to each other and are located directly south of Bains Gap Road in the east-central section of the FTMC Main Post. An unnamed hill separates the Bains Gap Road ranges from Range 20, which is located to the south. The north slope of the unnamed hill (which faces the Bains Gap Road ranges) is heavily vegetated. Jones Hill and Marcheta Hill (both approximately 1,300 feet above mean sea level) are situated north and east of the ranges, effectively enclosing the ranges in the floor of a shallow valley. Eight small tributary streams flow from the surrounding hillsides to meet in this area and form Cane Creek. Cane Creek flows west from the Bains Gap Road range area towards the central area of the Main Post.

The Iron Mountain Road and Bains Gap Road ranges are among the best documented and understood of all FTMC sites. These areas were used exclusively as small arms firing ranges

with the exception of Range 21, Parcel 77(Q) and Range 22, Parcel (78Q). Range 21 and 22 are located within the range fan and/or impact area of a World War I vintage artillery impact area. The locations of the small arms range firing lines, impact areas, berms, and safety fans are known with relative certainty, which logically defines the limits of potentially contaminated areas. Lead is likely to be the most widespread of the potential contaminants.

The Skeet Range, Parcel 69(Q), was constructed in 1988 and was operational until October 1998. Historically, ordnance used at the site consisted of shotgun ammunition. All buildings and structures were removed from this area in 2001.

Range 19, Parcel 75(Q), was constructed as a Pistol Qualification Range in 1976 and was operated until October 1998. Historically, ammunition fired at this range included 9-mm, .38-caliber, and shotgun rounds. All buildings and structures were removed in 1999.

Range 13, Parcel 71(Q), was constructed in 1951 as a Pistol Qualification Range and operated until October 1998. Ammunition used at this range was primarily pistol type ammunition although there is evidence that suggests that this range was used for firing machine guns during the 1960's. A map, dated 1966, confirms interview reports identifying a range in the vicinity of Range 12 and Range 13 as a "Machine Gun Range, 30 meter, Basic." All buildings and structures were removed in 1999.

Range 12, Parcel 70(Q), was constructed in 1951 and used until it was closed in 1998. When built, this range was referred to as Range 14 and described as a "1,000-inch range." In 1967, the range was renamed Range 12 and referred to as a "Competitive Pistol Range." As stated above, this range may have been used for machine gun practice in the 1960's.

Range 21, Parcel 77(Q), the Field Fire Range, was used from 1951 until 1999. Historical usage included small arms although this range is located within the impact area of a World War I vintage artillery range.

Range 22, Parcel 78(Q), the Zero Fire Range, was used from 1961 until closure in 1999. Although this range was used exclusively for small arms, portions of this site were located within the impact area of a World War I artillery range.

Range 27, Parcel 85(Q), was know as the Stress Pistol and Shotgun Range. The Archive Search Report states that the range was constructed after World War II. There are four main areas within Range 27; a Shooting House, a Live Fire and Maneuver Close Quarters Battle Range, a Stress Pistol and Shotgun Range and a Pistol and Submachine Gun Qualification Range. All types of small arms ammunition were used at these sites.

IT will collect surface soil, surface water/sediment, groundwater, and x-ray fluorescence (XRF) samples at the ranges described above.

UXO surface sweeps and downhole surveys of soil borings will be required to support field activities at the Ranges at Iron Mountain Road and the Ranges at Bains Gap Road. The surface sweeps and downhole surveys will be conducted to identify anomalies for the purpose of UXO avoidance.

2.0 UXO Team Composition

UXO team and personnel requirements will be in accordance with EP 75-1-2 (USACE, 2000) and installation-wide sampling and analysis plan (SAP) (IT, 2000) for FTMC. A UXO team will be on site during all sampling or intrusive activities where OE is suspected.

3.0 Responsibilities

The UXO Team Leader is responsible for ensuring that personnel performing UXO tasks at FTMC have the required qualifications. The UXO Team Leader supervises and coordinates UXO work activities.

The UXO team member(s) will provide UXO avoidance, explosive ordnance recognition, location, and safety functions for IT employees and any subcontractors during sampling activities. Sampling activities at this site include surface and subsurface soil sampling, drilling and installing monitoring wells, sampling of monitoring wells, survey of sample points, and safe access and egress to and from the site in support of HTRW operations.

4.0 Authority

UXO personnel are authorized to perform UXO avoidance activities only. UXO personnel are not permitted to initiate OE investigative or disposal activities.

5.0 UXO Avoidance Procedures to Support HTRW Sampling Activities at FTMC

The scope of work for site investigation activities to be performed at the Skeet Range, Parcel 69(Q), Range 19, Parcel 75(Q), Range 13, Parcel 71(Q), Range 12, Parcel 70(Q), Range 21, Parcel 77(Q), Range 22, Parcel 78(Q) and Range 27, Parcel 85(Q), includes the following UXO tasks:

- Provide UXO avoidance support during the collection of surface soil samples, groundwater samples, surface water samples, and sediment samples. Sample locations are defined in Section 4.0 of the site-specific field sampling plan contained in this binder.
- Provide downhole UXO support for all intrusive drilling to determine buried downhole hazards.
- Provide surveys for all intrusive field activities (e.g., digging, fence post driving, grading, or excavation) as required.

Since these areas may contain OE contamination, the UXO team must conduct a surface access survey for UXO before any type of activities commence. This includes foot and vehicular traffic. UXO avoidance activities the Skeet Range, Parcel 69(Q), Range 19, Parcel 75(Q), Range 13, Parcel 71(Q), Range 12, Parcel 70(Q), Range 21, Parcel 77(Q), Range 22, Parcel 78(Q) and Range 27, Parcel 85(Q), will include:

a) Access Corridors and Sampling Sites

(1) The UXO team will conduct access surveys of the footpaths and vehicular lanes approaching and leaving each of the investigation sites. Access surveys will begin in a known clear area and proceed by the most direct route to the sampling site. The boundaries of the access route and sampling site will be marked with white tape or white pin flags.

(2) If an OE item is found during the survey, the location will be conspicuously marked with a red pin flag and avoided by altering the route. Additionally, UXO personnel will complete the IT FTMC "Unexploded Ordnance Report Form." Subsurface anomalies will be marked with a yellow flag.

(3) The boundaries of the access route and sampling site will be recorded in the IT FTMC "UXO Sketch Log" by the UXO technician. Additionally, anomaly locations will be recorded on this form.

(4) Instrumentation used at this site will include the Schonstedt GA 72, the CST Corporation Magna-Trak 102, or the Whites Spectrum XLT Metal Detector. Additionally, the Schonstedt MG-220 or MG-230 will be set up for downhole monitoring. All equipment will be operated as specified in the appropriate operator's manual. All equipment will be function tested prior to use following the procedure in paragraph 3.2, *FTMC UXO Supplementary Procedures* (IT, 2001) and the operator's instructions. The Whites Metal Detector will be used in conjunction with hand-held magnetometers in areas of high concentrations of rocks with a magnetic signature to assist in eliminating anomalies created by "hot rocks."

(5) The access route will be twice as wide as the widest vehicle that will use the route. Footpath lanes will be a minimum of three feet wide.

(6) If surface OE or subsurface anomalies are encountered that cannot be avoided, the access route must be diverted to avoid contact. No personnel will be allowed outside of the surveyed areas without a UXO escort. No unescorted access is permitted inside the corridor area until a survey has been completed and boundaries established.

(7) At the actual investigation site, the UXO team must also complete a survey of an area sufficient to support mechanical excavation equipment maneuverability, parking of support vehicles, and establishment of decontamination stations. As a minimum, the surveyed area should have a dimension in all directions equal to twice the length of the largest vehicle or piece of equipment to be brought on site. White pin flags or tape will be used to mark the boundaries of the surveyed site.

(8) Surface soil samples are normally collected at depths of 0 to 12 inches below ground surface. The UXO team will survey the area of the soil sampling site for any indication of OE. Sampling is not permitted at any location where an anomaly has been detected.

(9) Tracked or other vehicles whose movement would disturb the soil are authorized for use only in areas that have been surveyed and in which no anomalies have been detected.

(10) If grading or soil movement is required to support access corridor development or a sampling location, UXO personnel will perform a survey. After an area has been surveyed and no anomalies have been detected, soil can be removed at a rate of no more than one foot per cut. If additional grading is required, another survey will be performed after each one foot of soil has been removed.

(11) Erosion and weathering will typically cause some OE items to leach to the surface or otherwise be uncovered. In cases where access corridors or sampling sites have not been surveyed or traversed for a period of time, additional surveys may be required. The decision regarding the performance of follow-on surveys will be made by the site superintendent with input provided by the FTMC UXO Safety Officer and FTMC UXO Team Leader. The decision will be based on such factors as: the amount of time since the last survey was performed, the weather during this period, the terrain in the area of concern, the former use of the area, and the type of quantity of OE found during initial surveys.

(12) Incremental geophysical surveys at drill hole locations will be initially accomplished using a hand auger to install a pilot hole. An access survey of the immediate vicinity of the pilot hole location will precede the installation of the pilot hole. The UXO team will use a manual or mechanical portable auger to install the pilot hole. The augured hole will be inspected for anomalies with a geophysical instrument (configured for downhole utilization) in two-foot increments as the hole is advanced below ground surface. Hand augering of a hole will not proceed if an anomaly is detected that cannot be positively identified as inert material. If a suspect OE item is encountered, the sampling personnel must select a new drill hole location. The pilot hole will also be inspected with the geophysical instrument upon reaching the final depth of the hand augered hole, providing a total clearance depth equal to pilot hole depth plus two feet. If the proposed site is still free of magnetic anomalies, the drilling equipment may be brought on site and utilized. The UXO team will continue to inspect the drill hole for anomalies at two-foot increments as the drilling is advanced from the clearance depth of the pilot hole until a depth of 12 feet is reached.

b) Vegetation Removal

In cases where large trees or other vegetation removal is required to support access or sampling operations, the procedures in paragraph 4.2, *FTMC UXO Supplementary Procedures* (IT, 2001) will be followed.

c) Magnetometer/Metal Detector Checkout and Field Procedures

The procedures in paragraph 3.0, *FTMC UXO Supplementary Procedures* (IT, 2001) will be followed. Since a portion of Range 12 and Range 13 includes portions of an artillery range impact area, the function test for all activities will utilize the function test ordnance that most closely approximates the 37-mm and 75-mm projectile.

d) UXO Logbooks and Documentation

All UXO personnel identified in paragraph 5.0, *FTMC UXO Supplementary Procedures* (IT, 2001) will maintain a logbook in accordance with that procedure.

6.0 Safety

In addition to the requirements of the site-specific safety and health plan prepared for this site, the UXO personnel will ensure the following:

a) During the access and subsurface surveys conducted with a geophysical instrument, the UXO team members will not wear safety shoes or other footwear that would cause the instrument to present a false response.

b) The UXO team will not be required to wear protective helmets unless an overhead hazard is present.

c) The FTMC UXO Safety Officer will monitor UXO activities to ensure compliance with applicable safety requirements.

d) The FTMC UXO Safety Officer will certify that all FTMC UXO workers are capable of performing UXO activities at FTMC based on observation of work performance.

e) The FTMC UXO Safety Officer is responsible for all site-specific UXO training.

f) The UXO technician on site will advise project personnel regarding all evacuation and/or exclusion zones as appropriate. The UXO technician will monitor all site sampling activities to ensure that only the minimum number of personnel are present on site.

7.0 Quality

The IT FTMC UXO Quality Control Officer will follow quality control instructions and procedures listed in Section 9.0 of the installation-wide OE management plan contained in Volume IV of the SAP (IT, 2000) appropriate to this task and the FTMC UXO Supplementary Procedures. The IT FTMC UXO Quality Control Officer will also utilize the "UXO Avoidance Quality Control Report" to document his activities. Copies of this form will be provided to the IT quality assurance representative upon request.

8.0 References

Environmental Science and Engineering, Inc. (ESE), 1998, ***Final Environmental Baseline Survey, Fort McClellan, Alabama***, prepared for U.S. Army Environmental Center, Aberdeen Proving Ground, Maryland, January.

IT Corporation (IT), 2001, ***Fort McClellan Unexploded Ordnance Supplementary Procedures***, June.

IT Corporation (IT), 2000, ***Final Installation-Wide Sampling and Analysis Plan, Fort McClellan, Calhoun County, Alabama***, March.

U. S. Army Corps of Engineers (USACE), 2000, ***Engineering Publication, EP 75-1-2, Unexploded Ordnance (UXO) Support During Hazardous, Toxic, and Radiological (HTRW) and Construction Activities***, 20 November.

U.S. Army Corps of Engineers (USACE), 1999, ***Archives Search Report, Maps, Fort McClellan, Anniston, Alabama***, July.